

Michael Emge
Excel Processed Pork
West Red Bank Road
P. O. Box A
Fort Branch, Indiana 47648-0195

Re: Registered Construction and Operation Status,
051-10583-00001

Dear Mr. Emge:

The application from Excel Processed Pork, received on January 25, 1999 has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following equipment, used in the meat processing which involves grinding, chopping, stuffing, and smoking of meat products to be located at West Red Bank Road, Fort Branch, Indiana 47648, are classified as registered:

- (a) A new 32.4 million British Thermal Units per hour (mmBtu/hr) natural gas-fired boiler. This new boiler will replace the existing permitted two (2) Spreader Stoker, coal-fired boilers rated at 33.7 mmBtu/hr and 39.4 mmBtu/hr;
- (b) One (1) 12 MMBtu per hour, natural gas-fired boiler, identified as B-2, exhausting at stack S/V 2; and
- (c) Degreasing operation, which is rated at less than 145 gallons per year.

The following conditions shall be applicable:

D.1.1 Opacity Limitation [326 IAC 5-1-2]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

D.1.2 Process Operations Particulate Matter (PM) Emissions Limit [326 IAC 6-3]

Pursuant to 326 IAC 6-3, the PM emissions from the meat smoking process, which includes eight (8) smokehouses are limited to 15.1 pounds per hour. The PM limit is determined using the following equation:

$$E = 4.10 P^{0.67}$$

where: E = PM limit in pounds per hour
P = Process weight rate in tons per hour

D.1.3 PM Emissions Limit from Indirect Heating Facilities [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3, the PM emissions from the 12 mmBtu/hr natural gas-fired boiler, B-2, shall be limited to 0.6 lb/mmBtu.

D.1.4 PM Emissions Limit from Indirect Heating Facilities [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, the PM emissions from the 32.4 mmBtu/hr natural gas-fired boiler, shall be limited to 0.41 lb/mmBtu. This limit shall be determined using the following equation:

$$P_t = 1.09 / Q^{0.26}$$

Where: P_t = Pounds of PM emitted per mmBtu (lb/mmBtu)

Q = Total source maximum operating capacity in mmBtu/hr.

D.1.5 New Source Performance Standards [40 CFR Part 60.40, Subpart, Dc]

Pursuant to 40 CFR Part 60.40, Subpart, Dc, the proposed 32.4 mmBtu/hr natural gas-fired boiler, is subject to the following Reporting and Recordkeeping Requirements of this NSPS:

- (a) The owner or operator of the affected facility shall submit notification of the date of construction, or reconstruction, anticipated startup, and actual startup. This notification shall include:
 - (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility; and
 - (2) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.
- (b) The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each month.
- (c) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two (2) years following the date of such record.

D.1.6 Spreader Stoker Coal-Fired Boilers

The existing 33.7 mmBtu/hr and 39.4 mmBtu/hr Spreader Stoker coal-fired boilers shall cease operation once the 32.4 mmBtu/hr natural gas-fired boiler goes into service. Therefore, 326 IAC 2-7 (Part 70 Permit Program) will not apply.

D.1.7 Degreasing Operation (326 IAC 8-3)

Pursuant to 326 IAC 8, the owner or operator of the degreasing operation shall performed all the work practices listed in the specific section of the rule.

This Registration supersedes the Part 70 T051-5870, issued to this source on September 24, 1998. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Management that the source is in operation and in compliance with this registration pursuant to and 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

APD

cc: File -Gibson County
Gibson County Health Department
Air Compliance - Gene Kelso
Permit Tracking - Janet Mobley
Air Programs Section- Nancy Landau

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	Excel Processed Pork
Address:	West Red Bank Road
City:	Fort Branch
Authorized individual:	
Phone #:	
Registration #:	051-10583-00001.

I hereby certify that **Excel Processed Pork** is still in operation and is in compliance with the requirements of Registration **051-10583-00001**.

Name (typed):
Title:
Signature:
Date:

**Indiana Department of Environmental Management
Office of Air Management**

Technical Support Document (TSD) for a Registration

Source Background And Description

Source Name: Excel Processed Pork
Source Location: West Red Bank Road
Fort Branch, Indiana, 47648-0195
County: Gibson
Registration Permit No.: 051-10583-00001
SIC Code: 2011
Permit Reviewer: Aida De Guzman

The Office of Air Management (OAM) has reviewed an application from Excel Processed Pork relating to the construction of the following equipment used in the meat processing which involves grinding, chopping, stuffing, and smoking of meat products:

- (a) A new 32.4 million British Thermal Units per hour (mmBtu/hr) natural gas-fired boiler. This new boiler will replace the existing permitted two (2) Spreader Stoker, coal-fired boilers rated at 33.7 mmBtu/hr and 39.4 mmBtu/hr.

The source was issued a Part 70 Permit T051-5870-00001 on September 24, 1998. The following equipment were permitted under the Part 70 permit:

- (a) One (1) 33.7 MMBtu per hour, Spreader Stoker, coal-fired boiler, identified as B-1, with particulate matter emissions controlled by a multicyclone, and exhausting at a 197 foot tall, 10 foot diameter stack, identified as S/V1. This boiler produces steam that is used for smoking meat;
- (b) One (1) 12 MMBtu per hour, natural gas-fired boiler, identified as B-2, exhausting at stack S/V 2. This boiler produces steam that is used for smoking meat; and
- (c) One (1) 39.4 MMBtu per hour, Spreader Stoker, coal-fired boiler, identified as B-3, with particulate matter emissions controlled by a multicyclone, and exhausting at a 197 foot tall, 10 foot diameter stack, identified as S/V 1. This boiler produces steam that is used for smoking meat.

The source's Part 70 permit also includes the following insignificant activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour.
- (b) Combustion source flame safety purging on startup.
- (c) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotive, automobiles, having a storage capacity less than or equal to 10,500 gallons.
- (d) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons.
- (e) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

- (f) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6.
- (g) Closed loop heating and cooling systems.
- (h) Activities associated with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is under the control of the owner/operator, that is, an on-site sewage treatment facility.
- (i) Paved and unpaved roads and parking lots with public access.
- (j) Covered conveyors for coal or coke conveying of less than or equal to 360 tons per day.
- (k) Coal bunker and coal scale exhausts and associated dust collector vents.
- (l) Asbestos abatement projects regulated by 326 IAC 14-10.
- (m) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (n) Vents from ash transport systems not operated at positive pressure.
- (o) A laboratory as defined in 326 IAC 2-7-1 (20)(C).
- (p) Outside coal pile used as emergency reserve.
- (q) Smokehouses 1-8 (SH-1 through SH-8).

The two (2) Spreader Stoker coal-fired boilers are the ones that made the source a Title V source.

However, since they are being replaced by one (1) new 32.4 mmBtu/hr natural gas-fired boiler, the source will no longer be a Title V source. The source's Potential to Emit (PTE) Oxides of Nitrogen is at a level that will require only a "Registration". This Registration will supersede the Part 70 Permit T051-5870, issued on September 24, 1998.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 25, 1999, with additional information received on March 10, 1999.

Emission Calculations

- (a) Meat Processing Emissions:
The source generates smoke used in smokehouses by pyrolyzing sawdust. The smoke is then ducted in the smokehouses for meat product smoking.

$$\begin{aligned}\text{Maximum Amount of sawdust used} &= 150,000 \text{ lb/yr} * 8760 \text{ hr/yr} / 6240 \text{ hr/yr} \\ &= 210,576.9 \text{ lb/yr} / \text{ton}/2000 \text{ lb} \\ &= 105.2 \text{ ton/yr}\end{aligned}$$

Using AP-42, SCC3-02-013-02, for Batch Smokehouse;

Facility	Sawdust Throughput (ton/yr)	Emission Factor (lb/ton)	Emissions (ton/yr)
Meat Processing	105.2	PM = 23.0	PM = 1.2
		PM10 = 30.0	PM10 = 1.6
		VOC = 44.0	VOC = 2.3
		Formaldehyde = 1.3	Formaldehyde = 0.07

Methodology:

Emissions, ton/yr = throughput, ton/yr * Ef, lb/ton * ton/2000 lb

- (b) Combustion Emissions:
See Page 1 of 1 TSD Appendix A for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	2.7
PM-10	3.1
SO ₂	0.1
VOC	3.4
CO	16.3
NO _x	19.5
Formaldehyde	0.07

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29) Oxides of Nitrogen (Nox) are greater than 10 tons per year, but less than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5, and a Registration will be issued.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Meat Processing	1.2	1.6	0.0	2.3	0.0	0.0	0.07
Natural Gas Combustion (Boilers)	1.5	1.5	0.1	1.1	16.3	19.5	0.0
Total Emissions	2.7	3.1	0.1	3.4	16.3	19.5	0.07

County Attainment Status

The source is located in Gibson County.

Pollutant	Status (attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment)
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Gibson County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Gibson County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

The source will be treated as a new source, since it is re-permitted by issuing a Registration because it is no longer a Part 70 source.

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Emissions (ton/yr)
PM	2.7
PM10	3.1
SO ₂	0.1
VOC	3.4
CO	16.3
NO _x	19.5
Single HAP	0.07
Combination HAPs	0.07

- (a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

The source was issued a Part 70 Permit T051-5870-00001 on September 24, 1998. However, the source will no longer be a Title V source, because the source is removing the coal-fired boilers that made them a Title V source. The source's new Potential to Emit (PTE) Nitrogen Oxide is at a level that will require only a "Registration". This Registration will supersede the issued Part 70 Permit.

Federal Rule Applicability

- (a) New Source Performance Standards (NSPS):
40 CFR Part 60.40, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units for which construction, modification or reconstruction is commenced after June 9, 1989, that has a maximum design heat input capacity of 100 mmBtu/hr or less but greater than 10 mmBtu/hr:
 - (1) The 12 mmBtu/hr natural gas-fired boiler, B-2 was installed in 1983, which was prior to the promulgation of this rule. Therefore, it is not subject to the NSPS.
 - (2) The proposed 32.4 mmBtu/hr natural gas-fired boiler is subject to following Reporting and Recordkeeping requirements of this NSPS.
 - (a) The owner or operator of the affected facility shall submit notification of the date of construction, or reconstruction, anticipated startup, and actual startup. This notification shall include:
 - (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility; and
 - (2) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.
 - (b) The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each month.
 - (c) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two (2) years following the date of such record.
- (b) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (c) National Emissions Standards for Hazardous Air Pollutants (NESHAP):
40 CFR Part 63, Subpart T - National Emission Standards for Halogenated Solvent Degreasing. This NESHAP is not applicable to the degreasing operation (insignificant activity) because it is not using one of the halogenated solvent mentioned in the rule.

- (d) There are no other NESHAPs that are applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it has no potential to emit more than one hundred (100) tons per year of any criteria pollutants.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

The meat smoking process, which includes eight (8) smokehouses is subject to 326 IAC 6-3 (Process PM Emission). This rule mandates a PM emissions limit using the following equation:

$$\begin{aligned} E &= 4.10 P^{0.67} \\ &= 15.1 \text{ lb/hr} \\ &= 66 \text{ ton/yr} \end{aligned}$$

where: E = PM limit in pounds per hour

P = Process weight rate in tons per hour

$$= 14,000 \text{ lbs of meat per hr} / 2000 \text{ lb} + 210,576.9 \text{ lbs per yr} / 2000 \text{ lb} / (8760 \text{ hr/yr})$$

$$= 7 \text{ ton/hr} + 0.01 \text{ ton/hr}$$

$$= 7.01 \text{ ton/hr}$$

The source is in compliance with this rule, because the meat smoking process only emits 1.2 ton/yr of PM (equivalent to 0.27 lb/hr), which is well below the PM limit in the rule.

326 IAC 8 -3 (Organic Solvent Degreasing Operation)

The degreasing operation, which is claimed as an insignificant activity is subject to this rule. There is no information in their Title V permit application file that indicates on what type of degreaser it is, hence, the proper section of this rule cannot be determined. The source has closed, and there is nobody there at the plant to receive calls.

326 IAC 8-1-6 (General Reduction Requirements)

The meat processing is not subject to this rule, because its potential VOC emissions are less than 25 tons per year.

326 IAC 8 (Volatile Organic Sources)

There are no other provisions under Article 326 IAC 8 that applies to the source, because it is not one of the sources described in the rules.

326 IAC 6-2-3 (PM Emissions Limit for Indirect Heating)

This rule applies to indirect heating facilities constructed before September 21, 1983. The 12 mmBtu/hr boiler, B-2 is subject to 326 IAC 6-2-3, since it was installed before September 21,

1983. This rule limits the boiler using the following equation:

$$Pt = \frac{C \cdot a \cdot h}{76.5 \cdot Q^{0.75} \cdot N^{0.25}}$$
$$= 11.26 \text{ lb / mmBtu}$$

Where: Pt = allowable PM emissions, lb/mmBtu
C = 50 $\mu\text{g}/\text{m}^3$
a = plume rise factor = 0.67
h = stack height, ft = 197
N = number of stacks = 2
Q = total heat input capacity = 12 mmBtu/hr

Since the calculated Pt exceeds 0.6 lb/mmBtu in item (e) of this rule, boiler B-2 is limited to 0.6 lb/mmBtu (pursuant to 326 IAC 6-2-3(e)).

This boiler is in compliance with the rule, see below calculations.

$$0.4 \text{ ton PM/yr} \cdot \text{yr} / 8760 \text{ hr/yr} \cdot \text{hr} / 12 \text{ mmBtu} \cdot 2000 \text{ lb/ton} = 0.008 \text{ lb/mmBtu} < 0.6 \text{ lb/mmBtu}.$$

326 IAC 6-2-4 (PM Emissions Limit for Indirect Heating)

This rule applies to indirect heating facilities constructed after September 21, 1983. The proposed 32.4 mmBtu/hr natural gas-fired boiler is subject to this rule. This rule mandates a PM emissions limit using the following equation:

$$Pt = 1.09 / Q^{0.26}$$
$$= 1.09 / (44.4)^{0.26}$$
$$= 0.41 \text{ lb/mmBtu}$$

Where: Pt = Pounds of PM emitted per mmBtu (lb/mmBtu)
Q = Total source maximum operating capacity in mmBtu/hr.
= 44.4 mmBtu/hr

This boiler is in compliance with the rule, see below calculations.

$$1.1 \text{ ton PM/yr} \cdot \text{yr} / 8760 \text{ hr/yr} \cdot \text{hr} / 32.4 \text{ mmBtu} \cdot 2000 \text{ lb/ton} = 0.008 \text{ lb/mmBtu} < 0.41 \text{ lb/mmBtu}.$$

326 IAC 7 Sulfur Dioxide Emissions Limit

The two (2) natural gas-fired boilers are not subject to this rule, because they don't have potential to emit sulfur dioxide of 25 tons per year or 10 pounds per hour.

326 IAC 2-4.1-1 New Source Toxics Control

This rule is not applicable to this source, because it is not a major source for single HAP emissions nor for combined HAPs emissions.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.
- (b) See detailed air toxic calculations on page 3 of this TSD.

Conclusion

The construction and operation of this meat processing plant shall be subject to the conditions of the attached proposed **Registration 051-10583-00001**.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

Page 1 of 1 TSD App A

Small Industrial Boiler

Company Name: Excel Processed Pork
Address City IN Zip: W. Red Bank Rd., Fort Branch, IN 47648
MSOP: 051-10583
Plt ID: 051-00001
Reviewer: Aida De Guzman
Date: March 16, 1999

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

32.4
12.0

283.8
105.1

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr						
32.4 mmBtu/hr	1.1	1.1	0.1	14.2	0.8	11.9
12.0 mmBtu/hr	0.4	0.4	0.0	5.3	0.3	4.4
Totals (tons/yr)	1.5	1.5	0.1	19.5	1.1	16.3

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

PM emission factors are condensable and filterable.

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton